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An Additional New Species of Genus *Nothocriconema* from Mt. Aso (Tylenchida : Criconematidae)

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Nothocriconema miscanthi n. sp. was detected from rhizosphere of *Miscanthus sinensis* in the Somma of Mt. Aso. This new species is similar to *N. demani* and *N. longulum* in body shape and in having elongated conical tail, but differs from them in shorter stylet, more posterior vulva and anus, and not sigmoid vagina in female adult; and less developed spines on body annules in larval stages. *Jpn. J. Nematol.* 11 : 24-27 (1982)

In the previous paper four species of genus *Nothocriconema* were reported from Mt. Aso region, two of which were new to science[3]. Recently the fifth species of this genus from the same locality of *N. palliatum* MINAGAWA, 1981 was compared with other species of the genus, and found to be clearly distinctive to all the known species. This is described herein as a new species, *N. miscanthi*. Specimens used were fixed by TAF and mounted in glycerine.

Nothocriconema miscanthi n. sp.

Description and measurements

Female (Fig. 1 A-H). Paratypes: n=25, L=293−407 μm (354±32: mean±standard deviation), a=6.7−9.4 (8.3±0.6), a'=8.9−11.3 (10.0±0.7), b=3.7−4.4 (4.1±0.3), c=10.6−19.5 (14.4±2.5), c'=1.0−1.9(1.4±0.2), V=85.7−90.4 (88.2±1.2), R=63−69(66±1.6), RV=8−10(9±0.7), Ran=5−7 (6±0.6), RVan=2−3 (2±0.4), Rex=19−22 (21±0.9), RSt=11−14 (12±0.9), ROes=16−21 (18±1.4), Rhem=18−21 (19±1.0), stylet=50.9−58.7 μm (55.0±2.0), prorhabdion=39.8−46.8μm (43.3±1.9). Holotype: L=387μm, a=8.1, a'=8.9, b=4.2, c=14.9, c'=1.4, V=89.1, R=66, RV=9, Ran=6, RVan=2, Rex=21, RSt=12, ROes=17, Rhem=19, stylet=56.7 μm, prorhabdion=44.7 μm.

Body cylindrical, regularly tapering in the posterior one fourth of body toward terminus and curved ventrad after heat treatment. Head annules two with smooth outer margin; first annule not retrorse and smaller than the second (13.3±2.4 μm *vs.* 17.0±1.9 μm). Neck annule distinctively lower than two head annules. Lip region elevated, with prominent four submedian lobes and a rectangular labial disc with I-shaped oral opening. Amphidial apartures on both sides of labial disc clearly visible. Lateral lips low, semicircular to rectangular in shape. Body annules smooth in posterior margin, except for tail region, where occasionally wavy or knotched. Stylet slender, knobs with forwardly directed processes, 2.4−4.0 μm (3.1±0.5) high, 7.2−8.7 μm (7.7±0.4) across. Excretory pore located at 88.1−115.3μm (100.8±8.1) and 26.5−30.0%(28.6±1.3) from the anterior end. Hemizonid one or two annules anterior to excretory pore. Vulva at 8th to 10th annule and 34.2−49.3 μm (41.4±4.1) from the posterior end, and located between two vulval lips; anterior lip round and overlapping posterior one. Vagina straight, not sigmoid. Ovary usually outstretched but occasionally flexured twice, terminus reaching esophagus in mature female. Spermatheca round, filled with round sperms. Anus prominent at 5th to 7th annule, mostly three annules posterior to vulva. Tail 20.0−33.3 μm (25.1±3.8) in length, the tip elongated conical, variable in shape of terminal annules. Anastomosis rare or absent.

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Male (Fig. 1, I-K). Paratype: n=1, L=389 μm, a=18.8, b=5.3, c=10.2, c'=2.5, spicules=36.0 μm, gubernaculum=7.7 μm, R=136, Rhem=36, Rex=41, testis=89.3 μm.

Body cylindrical, curved ventrad when killed by heat. Head round. Esophagus narrow. Hemizonid at 81.3 μm from the anterior end. Excretory pore at 12.0 μm posterior to hemizonid. Spicules slender, curved. Gubernaculum small. Tail slender than body, roundly pointed at the terminus. Lateral field 5.0 μm wide, with four incisures, inner pair fused around excretory pore, inner line obscure from the anterior end to the 20th annule. Lateral field widened around base of spicules as bursa. Body annule 2.7 μm apart at midbody.

Fourth-stage larva (female ?) (Fig. 1, L). Paratypes: n=3, L=267−278 μm (273: mean), a=7.6−8.3(8.0), a'=9.1−9.8(9.5), b=3.2−3.5(3.3), c=9.9−10.9(10.4), c'=1.3−1.7 (1.5), R=67−71 (69), Rex=21−24 (23), RSt=13−15 (14), ROes=20−23 (22), Rhem=20−23 (21), stylet=47.3−49.3 μm (48.6), prorhabdion=37.3−39.3 μm (38.5).

Body curved ventrad after treatment by heat. Head annules two, retrorse, not differentiated from body annules; first annule slightly crenated on outer margin, and second annule wider than the first (11.6 μm *vs.* 14.4 μm: mean). Stylet slender, knobs anteriorly directed. Tail similar to female adult. Genital primordium 64.0−70.0 μm (66.4 μm) in length. Posterior margin of body annules with fine crenation throughout and with small projections of the cuticles somewhat arranged in rows.

Second-stage larva (Fig. 1, M). Paratypes: n=10, L=173−268 μm (207±29), a=6.9−9.6 (8.2±0.8), a'=8.4−10.9 (9.6±0.7), b=2.7−3.5 (3.0±0.3), c=8.5−21.7 (11.4±4.0), c'=1.0−1.6 (1.3±0.2), R=70−77 (73±2.4), Ran=6−9 (8±0.9), Rex=23−25 (24±0.6), RSt=15−17 (15±0.7), ROes=21−27 (25±1.6), Rhem=21−24 (23±0.8), stylet=38.3−42.0 μm (40.5±1.2), prorhabdion=28.0−32,7 μm (31.7±1.6), excretory pore/L=27.9−33.2% (31.8±1.8).

Similar to fourth-stage larva, but crenations of body annules smaller and genital primordium less developed, 12.4±1.3 μm long, 8.4±1.5 μm wide.

Larva (stage ?) (Fig. 1, N). Two larvae of uncertain developmental stage were obtained. Metarhabdion and stylet knobs are absent and lumen of esophagus outstretched from the end of prorhabdion to esophageal-intestinal junction. Body annules and length of anterior part of stylets are in the range of those of the second-stage larvae, except for genital primordia which are longer (26.7μm and 121.3μm) and developed like those of fourth-stage larvae. Measurements are given below.

Paratypes: n=2, L=228−330μm, a=7.4−8.7, a'=8.4−10.0, b=2.9−3.1, c=10.6−11.0, c'=1.2−1.4, R=69−73, Ran=7−8, Rex=22−23, ROes=22−25, Rhem=21−22, prorhabdion=28.7−32.7 μm, excretory pore/L=29.3−29.5%.

Type specimens

Holotype: female; paratypes: 50 females, 1 male and 18 larvae. All specimens are deposited in the Herbarium and Insect Museum of the National Institute of Agricultural Sciences in Yetabe, Ibaraki Prefecture.

Type habitat and locality

Specimens were collected from rhizosphere of *Miscanthus sinensis* ANDERSS. in the Somma of Mt. Aso (860 m alt.), Kumamoto Prefecture.

Discussion

This species resembles *N. demani* (MICOLETZKY, 1925)[1,2,5], but differs in possessing more posterior vulva and anus as well as sigmoid vagina. Juveniles show scales of the posterior margin of annules which are not so sharply offset as juveniles of *N. demani* (=*Criconemoides ravidus* RASKI & GOLDEN, 1965) in which spine-like extensions arranged in 11−12 longitudinal rows[4]. *N. miscanthi* n. sp. is also related to *N. longulum* (GUNHOLD, 1953) by elongated conical

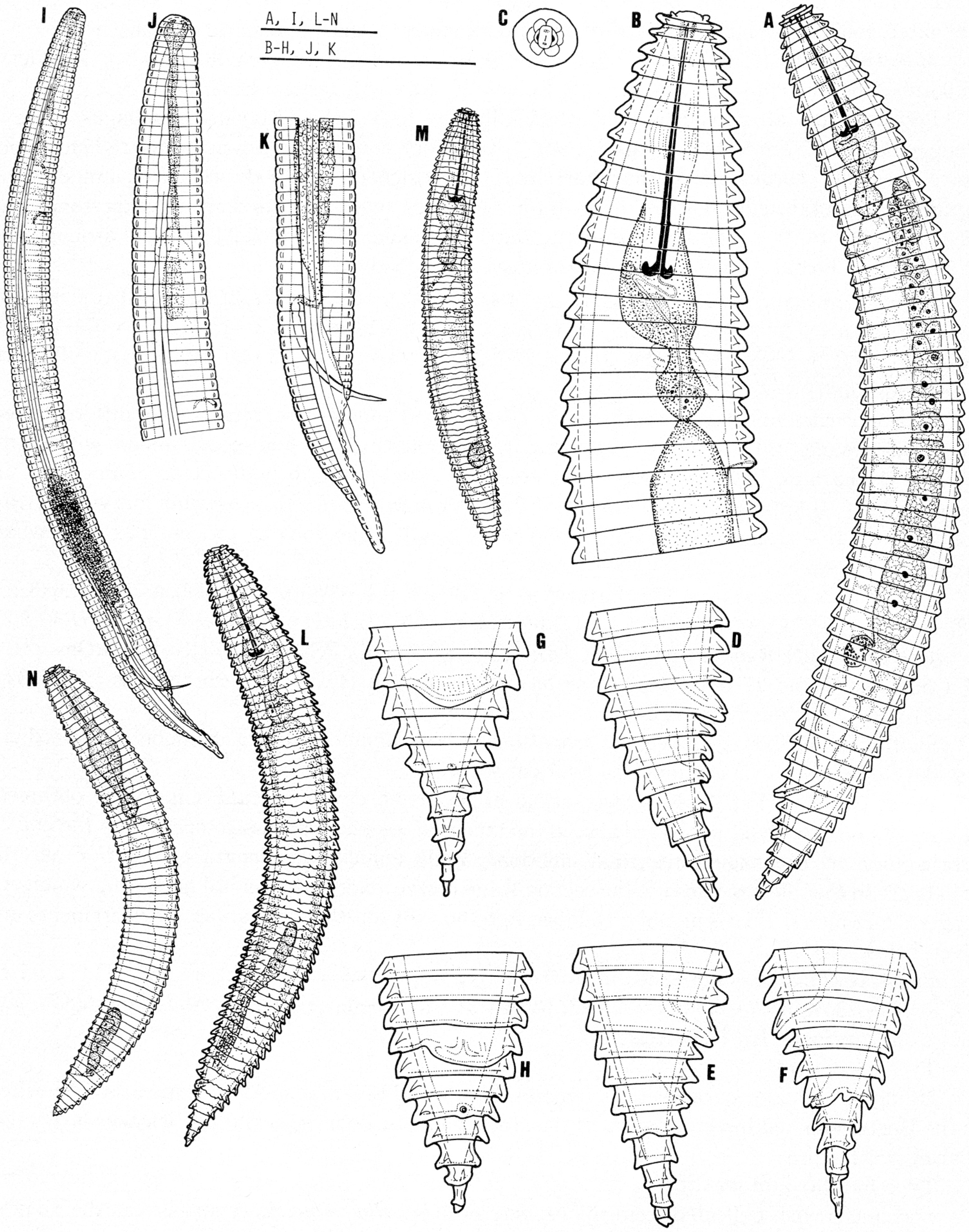

Fig. 1. *Nothocriconema miscanthi* n. sp. Female : A. general view. B. anterior part of body. C. *en face* view. D-F. posterior part of body (lateral view), G-H. do. (ventral view). Male : I. general view, J. anterior part of body, K. posterior part of body. Juveniles : L. fourth-stage larva(female?). M. second-stage larva. N. uncertain-stage larva. Scales indicate 50μm.

tail[3] differing in longer and more robust stylet in the latter and in slightly different shape of second head annule from succeeding body annules on the former.

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和文摘要

阿蘇山産*Nothocriconema*属線虫の１新種

皆川　望

阿蘇山外輪山上のススキ根辺より検出した*Nothocriconema*属線虫を*N. miscanthi* n. sp.として命名・記載した。本種は尾部が細長く，先端が尖る等の特徴から*N. demani*および*N. longulum*に似るが，それらと比較して雌成虫の口針が短く，陰門・肛門が体のより後方に位置し，膣がS字状でない事，幼虫の体環上の突起の発達が悪い等の差異が認められた。